CITY OF ALAMEDA
Memorandum

To: Honorable Mayor and
Members of the City Council

From: John A. Russo
City Manager

Date: February 7, 2012

Re: Approve the Removal of One Three-Inch Diameter Liquidambar and Replacement with One 15-gallon Japanese Maple, Appropriate $1,289,100 in Sewer Fund Fees and Award a Contract in the Amount of $1,482,600, Including Contingencies, to Fort Bragg Electric, Inc. for the Dublin Sewer Pump Station Backup Generator Installation Project, No. P.W. 04-10-10

BACKGROUND

On November 28, 2011, the Planning Board (PB) reviewed the City's tree removal policy contained within the Master Street Tree Plan (MSTP). The PB recommended that the policy be modified, including requiring all Capital Improvement Projects that remove more than five percent of the street trees along a block face be reviewed by the PB prior to the City Council's approval of the project. These modifications were approved by the City Council on December 20, 2011.

In accordance with the Environmental Protection Agency's Administrative Order and the General Waste Discharge Requirements of the Regional Water Quality Control Board and the State Water Resources Control Board, the Public Works Department (PWD) is designing upgrades to the City's 42 sanitary sewer pump stations to limit public health impacts associated with sanitary sewer overflows (SSO). This work includes the installation of back-up generators at the City's major pump stations to provide reliable power to operate the sewerage delivery system and prevent SSOs in the event of a power failure.

DISCUSSION

The Dublin pump station is located near the intersection of Kofman Parkway and Dublin Way within an existing public utility easement. The pump station serves a vast network of sewer lines within the area, as demonstrated in Exhibit 1, where it collects sewer flow from the area and discharges this via a force main. Due to the extensive sewer network served by the pump station and its proximity to the lagoon, it has been deemed a high priority for installing a back-up generator to assist with preventing SSOs.

On December 8, 2011, the PWD held a community meeting at the Harbor Bay Community Center to discuss the proposed project. Notices of the meeting were sent

via regular mail and e-mail to all residents within the Woodbridge Bay Estates Homeowners Association (HOA) by staff from the HOA. At this meeting, PWD staff presented two options for consideration.

Two design options were presented to the HOA for the placement of the backup generator, including the addition of a sound enclosure for the generator to limit the noise level at a distance of 23 feet to that of a normal conversation at three feet. A summary of the generator details is provided in Exhibit 2.

Option 1 (Exhibits 3 and 4) requires the installation of the generator and ancillary equipment inside an existing public utility easement. It was proposed the entire pump station site be enclosed by a fence. Option 1 was rejected by the HOA as the members preferred having the generator and ancillary equipment installed as far away as possible from the intersection of Kofman Parkway and Dublin Way to reduce aesthetic impacts and clutter.

Option 2 (Exhibits 5 and 6) requires the installation of the generator and ancillary equipment on a private of land adjacent to the existing public utility easement. This would require the City to acquire an easement from the HOA in order to install the generator and its equipment. At this proposed location, the generator could be installed in a manner where fencing could enclose the generator. In addition, the fencing would be painted and screened with Photinia shrubs (Exhibit 7). The orientation of this option would require the removal and replacement of an existing three-inch diameter Liquidambar tree owned and maintained by the HOA due to its proximity to the proposed fence and concrete generator pad. Based on an arborist assessment of this tree (Exhibit 8), it was recommended that the existing tree be removed. The existing tree would be replaced with a 15-gallon Japanese Maple tree (Exhibit 9), as it is consistent with the landscaping in the surrounding area. The Community of Harbor Bay Isle Owners' Association and the HOA residents support Option 2.

Tree Removal: In accordance with the newly revised tree removal policy in the MSTP, on January 9, 2012, the PB reviewed the tree removal proposal. There were no comments from the public and the PB unanimously approved recommending the removal of the tree to the City Council.

FINANCIAL IMPACT

The funds are budgeted in the PWD's account for Capital Improvement Program (90639) Sewer Pump Station Backup Generator Installation, with monies allocated from the Sewer Enterprise Fund (Fund 602). There is no impact to the General Fund.

MUNICIPAL CODE/POLICY DOCUMENT CROSS REFRENCE

When the City Council approved revisions to the tree removal policy contained in the MSTP, it indicated a preference to have private tree removals follow the same notification and approval process as City-owned street trees. This action is consistent with that City Council direction. This action does not affect the Municipal Code.

ENVIRONMENTAL COMPLIANCE

In accordance with the California Environmental Quality Act (CEQA), this project is Categorically Exempt under CEQA Guidelines, Section 15301(c), Existing Facilities.

RECOMMENDATION

Approve the removal of one three-inch diameter Liquidambar and replacement with one 15-gallon Japanese Maple, appropriate $1,289,100 in Sewer Fund Fees and award a contract in the amount of $1,482,600, including contingencies, to Fort Bragg Electric, Inc. for the Dublin sewer pump station backup generator installation project, No. P.W. 04-10-10.

Respectfully submitted,

Matthew T. Naclerio
Public Works Director

By,

Benny Ng
Assistant Engineer

Approved as to funds and account,

Fred Marsh
Controller

Exhibits:
1. Dublin Sewer Pump Station Sewer System Map
2. Emergency Power Generator Details
3. Option 1, Location Plan
4. Option 1, Location Section View
5. Option 2, Location Plan
6. Option 2, Location Section View
7. Photinia
8. Arborist Assessment
9. Japanese Maple

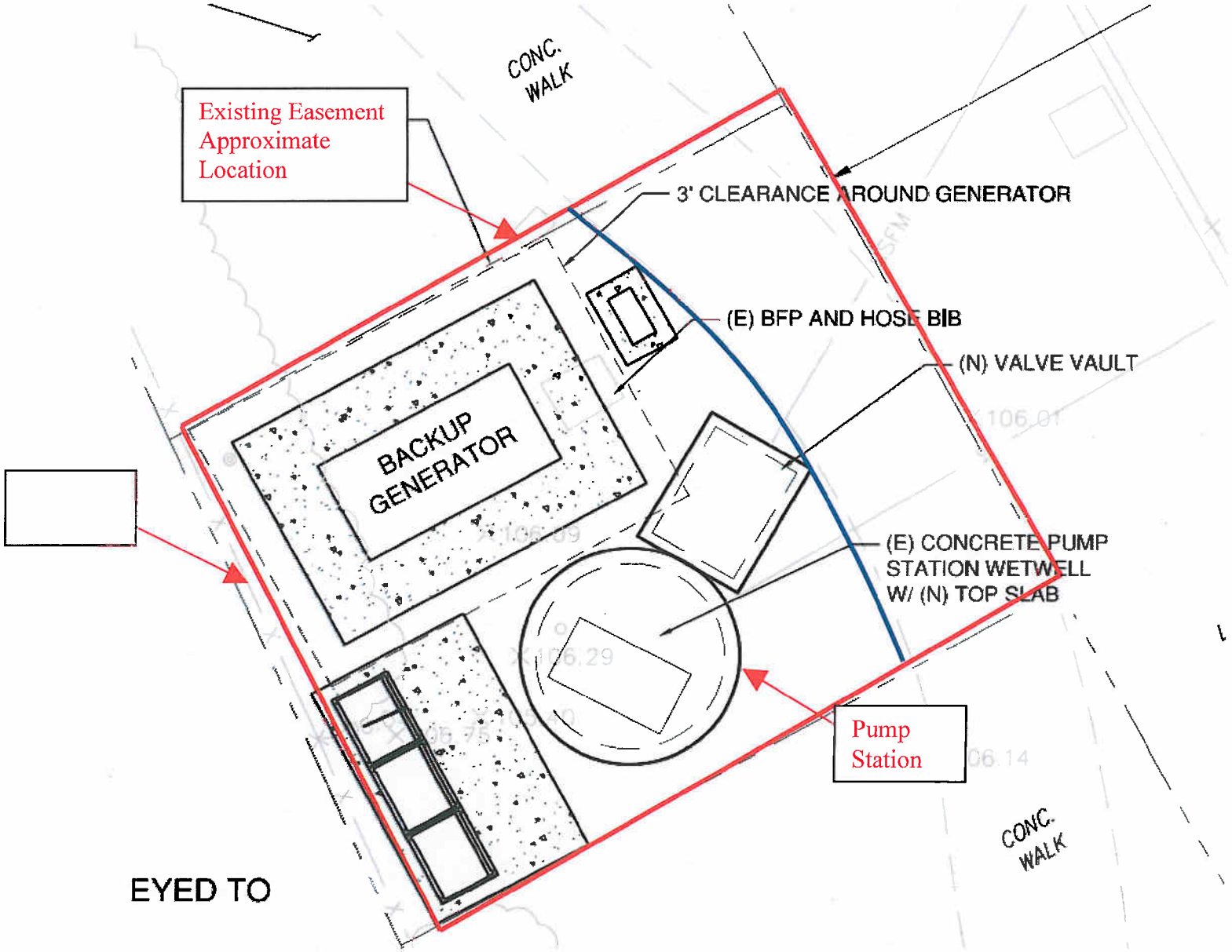
Dublin Sewer Pump Station Sewer System

City Council
Exhibit 1 to
Agenda Item #6-E
02-07-12

Emergency Power Generator Details

- Operates During Power Outages to Maintain Sewer Pump Operations
- Exercise Period of ~ One Hour Per Month to Maintain Factory Warranty (Monday through Friday, Regular Work Hours)
- Includes Sound Enclosure (Level 1) – Approximate Height Five Feet
- Sound Level at Nearest Building with Sound Enclosure Same As a Normal Conversation Three Feet to Five Feet Away

Option 1 Location Plan



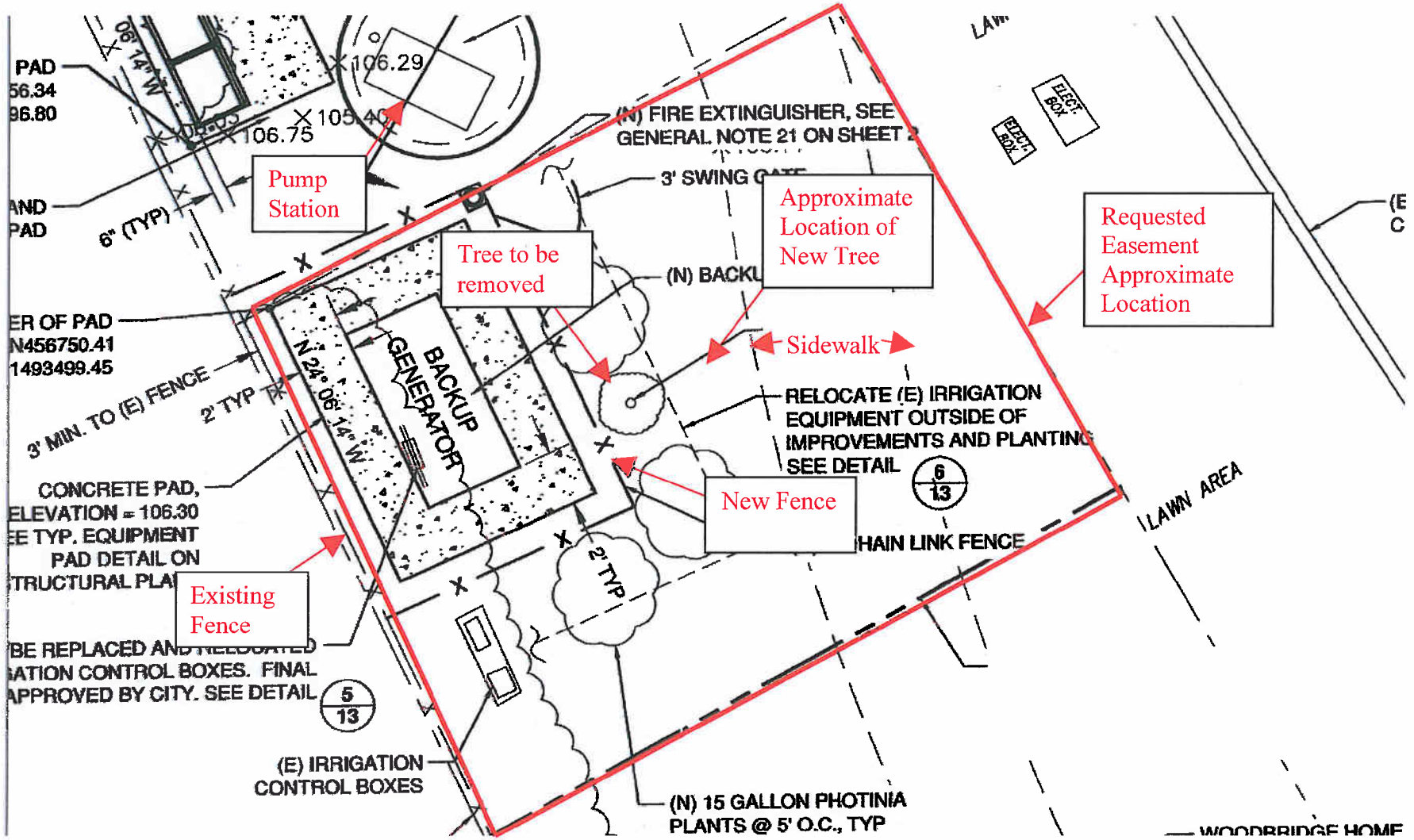
Note: 6' fencing will need to enclose entire site from Existing Fence to Sidewalk (Blue Line) within Easement

City Council
Exhibit 3 to
Agenda Item #6-E
02-07-12

Option 1 Location Section View

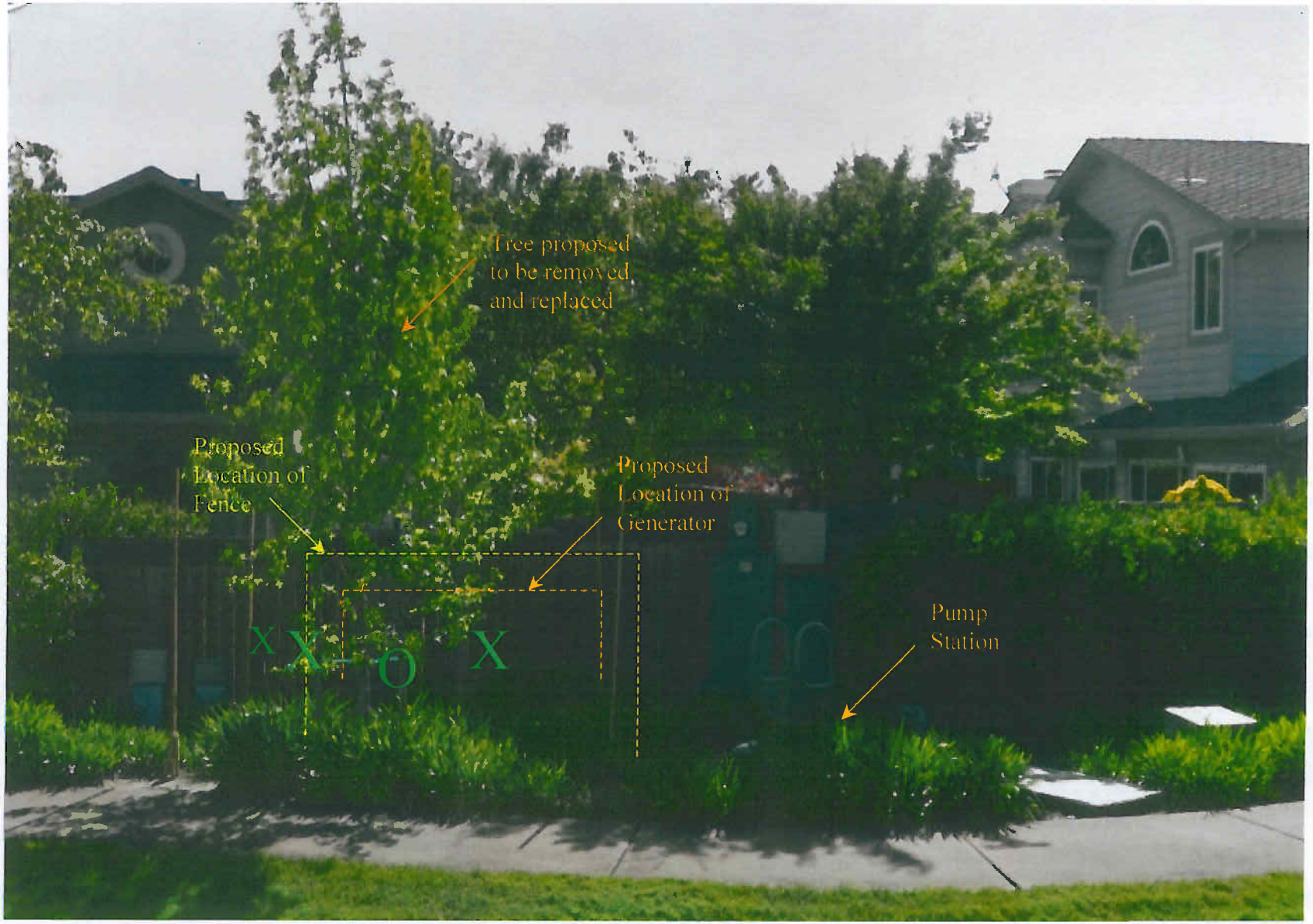
City Council
Exhibit 4 to
Agenda Item #6-E
02-07-12

Option 2 Location Plan



City Council
Exhibit 5 to
Agenda Item #6-E
02-07-12

Option 2 Location Section View



X – Proposed location of 15 Gallon Photinia Plants to camouflage fencing – Maximum Height ~ 14'
O – Proposed location of Water Gum, Tristaniopsis Laurina, replacement tree – Maximum Height ~ 25'

Photinia

City Council
Exhibit 7 to
Agenda Item #6-E
02-07-12

Attachment "G"

SBCA TREE CONSULTING

Steve Batchelder, Consulting Arborist

1534 Rose Street, Crockett, CA 94525
WC ISA Certified Arborist #228
CUFC Certified Urban Forester #134
Calif. Contractor Lic. (C-27) 533675
Phone (510) 787-3075, Fax (510) 787-3065
E-mail: steve@sbcatree.com

Date: November 2, 2011

To: Benny Ng, Assistant Engineer
Public Works Department
950 West Mall Square, Room 110
Alameda, CA 94501-7575

Subject: Impacts of installation of concrete pad and fence to adjacent tree

Location: 609 Dublin Way

Species: American Sweet Gum *(Liquidambar styraciflua)*

Assignment: *Arborist was requested to assess the impact of the installation of a concrete pad and fencing to adjacent tree*

Summary

The *Liquidambar* will be impacted as close as one foot from the base of the tree by the installation of a six foot high fence. A concrete generator pad will come three feet from the tree and excavation will be 1.5 feet deep.

The impending conflict between tree and fence is the most noteworthy concern, although the large mature size attained by the *Liquidambar* creates a significant potential for future displacement of the slab as well. Furthermore, the tree is presently located four feet from the adjacent walkway and it is reasonable to predict there will be root related hardscape damage if the tree remains. It is recommended that the tree be removed and replaced with a more appropriate species for the location.

Tree and Site Description

The *Liquidambar* tree is located in a large planting area between sidewalk and resident fence. The sidewalk exists four feet from the tree base. The tree has a DBH[1] of 3 inches and is approximately 25 feet in height. Health and Structure are both good. Surrounding soil was found to be un-compacted sand with ample moisture. Feeder roots were found to be one foot below grade and larger roots at 18 inches deep.

[1] DBH – Tree **D**iameter measured at **B**reast **H**eight, or 4.5 feet below soil grade.

Analysis and Discussion

Proximity of Fence and Slab to Tree – The proposed fence surrounding the concrete pad will come within one foot from the base of the young American Sweetgum. This species is known in Alameda to grow to 85 feet in height and have a 50 inch DBH, with an even larger root flare. The proposed fencing placement does not provide adequate room for the developing tree. Eliminating the fencing will only postpone future damage as some conflict between tree and slab is expected as the tree matures.

Future Conflict with Hardscape – Currently the tree is located four feet from the adjacent pathway. It can be expected that there will be future root and buttress related sidewalk damage as the tree matures.

Soil Conditions – The sandy soil with adequate moisture provides for ideal rooting conditions and tree growth. The young tree is expected to grow large. The sandy soil does somewhat mitigate the concern of imminent damage to hardscape, as roots are expected to grower deeper.

Tree Species – According to the California Tree Failure Report Program statistics[2], the *Liquidambar* is the 8th most commonly reported genera to suffer failures. The *Liquidambar* is no longer recommended for urban planting due to the brash wood, structural defects, and the buttress flare and root related hardscape damage attributed to this species.

Recommendations

Remove Tree and Replace Tree – The proximity of the liquidambar tree to the proposed fencing and concrete slab makes it inevitable that the fence and slab will be displaced as a result of buttress flare expansion of the tree. It is recommended that the young tree be removed and replaced with a smaller stature tree species.

Replacement Tree Species –The Water Gum *(Tristaniopsis laurina)* is a species more appropriate for the location.

End Report

[2] http://ucanr.org/sites/treefail/CTFRP_Statistics/

Photo Supplement

Photo 1 – *Photo to the left shows the American Sweet Gum. The adjacent hardscape is currently four feet from tree base. Damage to the sidewalk is likely as the roots and buttress grow and mature. The liquidambar tree is not appropriate for such planting locations.*

Photo 2 – *Photo to the left shows the area where the young liquidambar tree is located. The red arrow points to the subject Liquidambar tree.*

End Photo Supplement

SBCA Tree Consulting
1534 Rose St. Crockett, CA 94525

Phone (510) 787-3075
Fax (510) 787-3065

Japanese Maple (Acer palmatum)

City Council
Exhibit 9 to
Agenda Item #6-E
02-07-12